



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0398; Project Identifier MCAI-2020-00881-T]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain Bombardier, Inc., Model CL-600-1A11 (600), CL-600-2A12 (601), and CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. This proposed AD was prompted by reports that during certain operating modes, the flight guidance/autopilot does not account for engine failure while capturing an altitude. This proposed AD would require revising the existing airplane flight manual (AFM) to provide the flightcrew with a new limitation and procedure for operation during certain flight modes. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <https://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC

20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; Internet <https://www.bombardier.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Examining the AD Docket

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0398; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the Mandatory Continuing Airworthiness Information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Steven Dzierzynski, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include

“Docket No. FAA-2022-0398; Project Identifier MCAI-2020-00881-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend the proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to <https://www.regulations.gov>, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this proposed AD.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Steven Dzierzynski, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued TCCA AD CF-2020-02, dated February 13, 2020 (TCCA AD CF-2020-02) (also referred to as the MCAI), to correct an unsafe condition for certain Bombardier, Inc., Model CL-600-1A11 (600), CL-600-2A12 (601), and CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. You may examine the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0398.

This proposed AD was prompted by reports that during ALTSEL, ASEL, or ALTS CAP mode, the flight guidance/autopilot does not account for engine failure while capturing an altitude. The FAA is proposing this AD to address a possible engine failure during or before a climb while in ALTSEL, ASEL or ALTS CAP mode, which could cause the airspeed to drop significantly below the safe operating speed. Prompt crew intervention may be required to maintain a safe operating speed. See the MCAI for additional background information.

Related Service Information Under 1 CFR Part 51

Bombardier has issued the following service information. This service information contains a new AFM limitation and procedure for operation during certain flight modes. These documents are distinct since they apply to different airplane configurations. These configurations may include the presence or absence of winglets, incorporation of service bulletin 601-0300 which introduces an airspeed limitation placard, and the type of engine installed on the airplane.

- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in

the Normal Procedures section of the Canadair Challenger AFM, Product Publication No. 600, Revision A115, dated June 16, 2021.

- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section of the Canadair Challenger AFM, Product Support Publication (PSP) No. 600-1, Revision 107, dated June 16, 2021.
- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section of the Canadair Challenger AFM, PSP No. 601-1A, Revision 129, dated June 16, 2021.
- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section of the Canadair Challenger AFM, PSP No. 601-1A-1, Revision 83, dated June 16, 2021.
- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section of the Canadair Challenger AFM, PSP No. 601-1B, Revision 87, dated June 16, 2021.
- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in

the Abnormal Procedures section of the Bombardier Canadair Challenger AFM, PSP No. 601-1B-1, Revision 85, dated June 16, 2021.

- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ASEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section of the Canadair Challenger AFM, PSP No. 601A-1, Revision 107, dated June 16, 2021.
- Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ASEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section of the Bombardier Canadair Challenger AFM, PSP No. 601A-1-1, Revision 96, dated June 16, 2021.
- Automatic Flight Control Systems limitation specified in Section 02-08, Systems Limitations, of Chapter 2 – Limitations; and the Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP procedure in Section 05-03, Single Engine Procedures, of Chapter 5 – Abnormal Procedures of the Bombardier Challenger 604 AFM, Publication No. PSP 604-1, Revision 124, dated November 24, 2021. (For obtaining the limitation and procedure for the Bombardier Challenger 604 AFM, Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.)
- Automatic Flight Control Systems limitation specified in Section 02-08, Systems Limitations, of Chapter 2 – Limitations; and the Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP procedure in Section 05-03, Single Engine Procedures, of Chapter 5 – Abnormal Procedures of the Bombardier Challenger 605 AFM, Publication No. PSP 605-1, Revision 62, dated November 24, 2021. (For obtaining the limitation and procedure for the

Bombardier Challenger 605 AFM, Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.)

- Automatic Flight Control Systems limitation specified in Section 02-08, Systems Limitations, of Chapter 2 – Limitations; and the Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP procedure in Section 05-03, Single Engine Procedures, of Chapter 5 – Abnormal Procedures of the Bombardier Challenger 650 AFM, Publication No. PSP 650-1, Revision 27, dated November 24, 2021. (For obtaining the limitation and procedure for the Bombardier Challenger 650 AFM, Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.)

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA’s Determination

These products have been approved by the aviation authority of another country, and are approved for operation in the United States. Pursuant to the FAA’s bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the MCAI and service information referenced above. The FAA is proposing this AD because the FAA evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop on other products of these same type designs.

Proposed Requirements of this NPRM

This proposed AD would require revising the existing AFM to provide the flightcrew with a new limitation and procedure for operation during flight in certain flight modes.

Differences Between this Proposed AD and the MCAI

This NPRM updates certain AFM revision levels identified in TCCA AD CF-2020-02, and therefore identifies the complete, most recent service information that will be incorporated by reference in the final rule. Operators should note that Bombardier revised the ALTS CAP mode to (V) ALTS CAP or (V) ALTV CAP mode in a revision prior to the latest revisions of the Bombardier Challenger 604/605/650 AFMs referenced in this AD.

Costs of Compliance

The FAA estimates that this proposed AD affects 133 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
1 work-hour X \$85 per hour = \$85	\$0	\$85	\$11,305

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Bombardier, Inc.: Docket No. FAA-2022-0398; Project Identifier
MCAI-2020-00881-T.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE
OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected Airworthiness Directives (ADs)

None.

(c) Applicability

This AD applies to the Bombardier, Inc., airplanes, certificated in any category, identified in paragraphs (c)(1) through (6) of this AD.

(1) Model CL-600-1A11 (600), serial numbers 1001 through 1085 inclusive.

(2) Model CL-600-2A12 (601), serial numbers 3001 through 3066 inclusive.

(3) Model CL-600-2B16 (601-3A and 601-3R Variants), serial numbers 5001 through 5194 inclusive.

(4) Model CL-600-2B16 (604 Variant), serial numbers 5301 through 5665 inclusive.

(5) Model CL-600-2B16 (604 Variant), serial numbers 5701 through 5988 inclusive.

(6) Model CL-600-2B16 (604 Variant), serial numbers 6050 through 6999 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 22, Auto flight.

(e) Reason

This AD was prompted by reports that during certain operating modes, the flight guidance/autopilot does not account for engine failure while capturing an altitude. The FAA is issuing this AD to address a possible engine failure during or before a climb while in ALTSEL, ASEL or ALTS CAP mode, which could cause the airspeed to drop significantly below the safe operating speed. Prompt crew intervention may be required to maintain a safe operating speed.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Revision of the Existing Airplane Flight Manual (AFM)

Within 30 days after the effective date of this AD: Revise the existing AFM to incorporate the information specified in the limitation and procedure specified in the applicable AFM specified in figure 1 to paragraph (g) of this AD.

Figure 1 to paragraph (g) – AFM Revisions

Airplane Serial Numbers	New Limitation and Procedure	AFM	Revision
Model CL-600-1A11 (600 variant), serial numbers 1001 through 1085 for non-winglets	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Normal Procedures section	Canadair Challenger AFM, Product Publication No. 600	Revision A115, dated June 16, 2021
Model CL-600-1A11 (600 variant), serial numbers 1001 through 1085 for winglets	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section	Canadair Challenger AFM, Product Support Publication (PSP) No. 600-1	Revision 107, dated June 16, 2021
Model CL-600-2A12 (601 variant), serial numbers 3001 through 3066	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section	Canadair Challenger AFM, PSP No. 601-1A	Revision 129, dated June 16, 2021

Airplane Serial Numbers	New Limitation and Procedure	AFM	Revision
Model CL-600-2A12 (601 variant), serial numbers 3001 through 3066 with Service Bulletin (SB) 601-0360 incorporated	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section	Bombardier Canadair Challenger AFM, PSP No. 601-1A-1	Revision 83, dated June 16, 2021
Model CL-600-2A12 (601 variant), serial numbers 3001 through 3066 with - 3A engine	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section	Canadair Challenger AFM, PSP No. 601-1B	Revision 87, dated June 16, 2021
Model CL-600-2A12, serial numbers 3001 through 3066 with - 3A engine and SB 601-0360 incorporated	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ALTSEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section	Bombardier Canadair Challenger AFM, PSP No. 601-1B-1	Revision 85, dated June 16, 2021
Model CL-600-2B16 (601-3A/3R variant), serial numbers 5001 through 5194	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ASEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the	Canadair Challenger AFM, PSP No. 601A-1	Revision 107, dated June 16, 2021

Airplane Serial Numbers	New Limitation and Procedure	AFM	Revision
	Abnormal Procedures section		
Model CL-600-2B16 (601-3A/3R variant), serial numbers 5001 through 5194 with SB 601-0360 incorporated	Automatic Flight Control System limitation in the Systems Limitations in the Limitations section and Engine Failure in Climb During ASEL procedure in the Airplane Handling Procedures Following Engine Failure procedures in the Abnormal Procedures section	Bombardier Canadair Challenger AFM, PSP No. 601A-1-1	Revision 96, dated June 16, 2021
Model CL-600-2B16 (604 variant), serial numbers 5301 through 5665	Automatic Flight Control Systems limitation specified in Section 02-08, Systems Limitations, of Chapter 2 – Limitations; and the Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP procedure in Section 05-03, Single Engine Procedures, of Chapter 5 – Abnormal Procedures	Bombardier Challenger 604 AFM, Publication No. PSP 604-1 ¹	Revision 124, dated November 24, 2021
Model CL-600-2B16 (604 variant), serial numbers 5701 through 5988	Automatic Flight Control Systems limitation specified in Section 02-08, Systems Limitations, of Chapter 2 – Limitations; and the Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP procedure in Section 05-03, Single Engine Procedures, of Chapter 5 – Abnormal Procedures	Bombardier Challenger 605 AFM, Publication No. PSP 605-1 ²	Revision 62, dated November 24, 2021
Model CL-600-2B16 (604 variant), serial numbers 6050 through 6999	Automatic Flight Control Systems limitation specified in Section 02-08, Systems Limitations, of Chapter 2 – Limitations; and the	Bombardier Challenger 650 AFM, Publication No. PSP 650-1 ³	Revision 27, dated November 24, 2021

Airplane Serial Numbers	New Limitation and Procedure	AFM	Revision
	Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP procedure in Section 05-03, Single Engine Procedures, of Chapter 5 – Abnormal Procedures		
¹ For obtaining the limitation and procedure for the Bombardier Challenger 604 AFM, Publication No. PSP 604-1, use Document Identification No. CH 604 AFM.			
² For obtaining the limitation and procedure for the Bombardier Challenger 605 AFM, Publication No. PSP 605-1, use Document Identification No. CH 605 AFM.			
³ For obtaining the limitation and procedure for the Bombardier Challenger 650 AFM, Publication No. PSP 650-1, use Document Identification No. CH 650 AFM.			

(h) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(i) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA AD CF-2020-02, dated February 13, 2020, for related information. This MCAI may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2022-0398.

(2) For more information about this AD, contact Steven Dzierzynski, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov.

(3) For service information identified in this AD, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; Internet <https://www.bombardier.com>. You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued on April 5, 2022.

Lance T. Gant, Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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